

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
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Ex parte JEFFREY S. MCVEIGH and MICHAEL KEITH

Appeal No. 2003-0812
Application 09/274,157

ON BRIEF

Before JERRY SMITH, LEVY and BLANKENSHIP, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-19, which constitute all the claims in the application.

The disclosed invention pertains to a method and apparatus for motion estimation in received image data. A feature of the invention is that the content of bidirectionally interpolated frames (B-frames) is unidirectionally predicted from a temporally closest anchor frame.

Representative claims 1 and 8 are reproduced as follows:

1. A method for performing motion estimation/comprising:
receiving a stream of data comprising one or more bidirectionally interpolated frames (B-frame) and a plurality of anchor frames; and
unidirectionally predicting content of each B-frame from a temporally closest anchor frame.
8. An apparatus/comprising:
a motion estimation circuit to receive one or more bidirectionally interpolated frames (B-frame) and a plurality of anchor frames, and to unidirectionally predict content of each of the plurality of B-frames from a select anchor frame.

The examiner relies on the following reference:

Ju	5,801,778	Sep. 1, 1998
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Claims 1-19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by the disclosure of Ju.

Rather than repeat the arguments of appellants or the examiner, we make reference to the brief and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the examiner and the evidence of anticipation relied upon by the examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the brief along with the examiner's rationale in support of the rejection and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the disclosure of Ju fully meets the invention as set forth in claims 8-19 but does not fully meet the invention as set forth in claims 1-7. Accordingly, we affirm-in-part.

Appellants have nominally indicated that the claims stand or fall together in a single group [brief, page 6]. 37 CFR § 1.192(c)(7) states that "[f]or each ground of rejection which appellant contests and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and, in the argument under paragraph (c)(8) of this section, appellant

explains why the claims of the group are believed to be separately patentable" [emphasis added]. Thus, the Board is permitted to select a single claim from a group of claims subject to the same rejection where no grouping is offered. If we were to consider a single claim only, we would select independent claim 8 which is clearly the broadest claim on appeal before us. Appellants, however, have made their arguments with respect to claim 1, which is narrower than claim 8. Since the examiner has also addressed the limitations of claim 1, we will consider the rejection with respect to our selected representative claim (claim 8) and to the claim argued by appellants and the examiner (claim 1).

Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

With respect to argued claim 1, the examiner has indicated how he finds the claimed invention to be fully met by the disclosure of Ju [answer, pages 3-4]. Appellants argue that Ju does not anticipate or suggest the unidirectional, temporally restrained, frame-based motion estimation process of claim 1. Appellants assert that the process of Ju is not restricted to using the temporally closest anchor frame [brief, pages 6-9]. The examiner responds that Ju encodes data at the frame level. The examiner also responds that Ju discloses forward and backward predictive coding, and the examiner asserts that encoding relative to a subsequent reference frame represents a coding based on the temporally closest anchor frame [answer, pages 4-5].

We will not sustain the examiner's rejection of argued independent claim 1 or of claims 2-7 which depend therefrom. Although we agree with the examiner that Ju teaches a frame-based encoding technique, we do not agree with the examiner that Ju discloses an encoding technique in which the content of each B-frame is unidirectionally predicted from a temporally closest anchor frame. Ju teaches that encoding of a B-frame can be intracoded, unidirectional forward predictive coded, unidirectional backward predictive coded using temporal encoding relative to a subsequent reference frame or bidirectional

predictive coded using temporal encoding relative to both previous and subsequent reference frames. None of these options can ensure that the predictive coding is based on the temporally closest anchor frame. In other words, the unidirectional codings of Ju, which use a previous anchor frame or a subsequent anchor frame do not take into account which of the previous or subsequent anchor frames is the temporally closest frame to the B-frame in question. There is no indication in Ju that the particular unidirectional coding technique used is based on which anchor frame is the temporally closest anchor frame to the B-frame being processed.

With respect to independent claims 8 and 16, appellants' arguments are not commensurate in scope with these claims because these claims do not recite the feature of a temporally closest anchor frame. Claims 8 and 16 simply recite that the content of the B-frames is unidirectionally predicted from a select anchor frame. As noted above, Ju clearly teaches that B-frames can be unidirectionally forward predictively coded or backward predictively coded based on reference frames (anchor frames). Each of these unidirectional codings of Ju determines the content of B-frames based on a select anchor frame. Therefore, Ju fully meets the invention of independent claims 8 and 16. Since the

what it does

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dependent claims are not separately argued, they fall with claims 8 and 16.

In summary, we have sustained the examiner's rejection with respect to claims 8-19, but we have not sustained the rejection with respect to claims 1-7. Therefore, the decision of the examiner rejecting claims 1-19 is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

Jerry Smith
JERRY SMITH

JERRY SMITH)
Administrative Patent Judge)

STUART S. LEVY

STUART S. LEVY
Administrative Patent Judge

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Howard B. Blankenship

HOWARD B. BLANKENSHIP)
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